State of California

EMPLOYMENT TRAINING PANEL

M e m o r a n d u m

To: Panel Members Date: August 27, 2004

From: Dolores Kendrick, Manager Analyst: M. Paccerelli

Subject: ONE-STEP AGREEMENT FOR **CALIFORNIA MANUFACTURING TECHNOLOGY CONSULTING (CMTC)**

CONTRACTOR:

- Multiple Employer: Employer Consortium
- Training Project Profile: Retraining: Companies W/Out-Of-State Competition
- Legislative Priorities: Promotion of California's Manufacturing Workforce Moving To A High Performance Workplace
- Type of Industry: Manufacturing
- Repeat Contractor: Yes
- ETP Trainees Represented by Union: Yes
- Name and Local Number of Union Representing ETP Trainees: Food Industrial and Beverage Warehouse, Drivers and Clerical Employees Union, Teamsters Local Union No. 630

CONTRACT:

- Program Costs: $1,945,200
- Substantial Contribution: $0
- Multiple Employer Support (8%) $134,480
- Total ETP Funding: $2,079,680
- Total In-kind Contribution: $1,458,464
  - *Trainee Wages Paid During Training:* $1,094,580
  - *Other Contributions*: $363,884
  - *Maximum Contractor Charge to Participating Employers:* $100 Per Trainee
- Reimbursement Method: Fixed-Fee
- County(ies) Served: Statewide

INTRODUCTION:

This will be the sixth ETP project between the California Manufacturing Technology Consulting (CMTC) and the Employment Training Panel (ETP).

CMTC is a private, non-profit corporation providing small and medium-sized manufacturers with integrated consulting and training services in lean enterprise, quality systems, information technology, organization development, and supply chain management.

CMTC is eligible to contract with the Panel as a group of employers under California Unemployment Insurance Code, Section 10205(c)(1). Participating employers qualify under Title 22 California Code of Regulations, Section 4416(a), (b), and (c) as manufacturers and other companies facing out-of-state competition. CMTC is requesting Panel funds to assist in the retraining of 2,000 frontline workers and managers/supervisors employed in manufacturing and related industries.

MEETING ETP GOALS AND OBJECTIVES:

CMTC proposes training that will further the following ETP goals and objectives:

1) ETP training funds are requested to specifically assist employee retraining in a manufacturing company. The funding will be consistent with ETP's legislative mandate and funding priority of promoting California's manufacturing workforce.

2) Training is targeted to meet the needs for a skilled workforce in the manufacturing industry where companies face strong competition from companies located out of state. Thus, this project meets ETP's legislative mandate to foster job retention in industries threatened by out-of-state competition.

3) Training is designed to enhance the occupational skills of workers in order to prepare them for progress toward a high performance workplace.

TRAINING PLAN TABLE:

Grp/Trainee Type	Types Of Training	No. Retain	No. Class/Lab Videocnf. Hrs.	No. CBT Hrs.	Cost Per Trainee	Hourly Wage After 90 Days
Retrainee Job Numbers 1 to 8	MENU: Continuous Improvement, Manufacturing Skills, Management Skills, Business Skills, Computer Skills, Literacy Skills, Hazardous Materials	1,280	24-160	0	$333 - $2,224	* $11.16 – $49.50
Retrainee Small Business <100 Job Numbers 9 to 14	MENU: Continuous Improvement, Manufacturing Skills, Management Skills, Business Skills, Computer Skills, Literacy Skills, Hazardous Materials	720	24-120	0	$513 - $2,567	* $11.16 – $49.50

Prevalent Hourly Wage

$19.62

Average Cost Per Trainee

$1,040

Health Benefits Used To Meet ETP Minimum Wage:

Employer-paid health, dental, and vision benefits may be added to trainee wages to meet the minimum hourly rates per county as follows: $12.17 for Los Angeles and Orange; $11.61 for San Diego; $11.29 for Ventura; and $11.16 for all other counties.

Turnover Rate

20% or less

% Of Mgrs & Supervisors To Be Trained:

20% or less

Other Employee Benefits:

Other employee benefits vary among participating employers.

COMMENTS / ISSUES:

- ***Frontline Workers***

  CMTC will continue to provide training primarily to serve workers who meet the Panel definition of frontline workers under Title 22, California Code of Regulations, Section 4400(ee). No more than twenty percent of participating employers' ETP trainees will be managers or supervisors.

- ***Compensatory Nature of Training***

  Training is mandatory for all trainees.

- ***Production During Training***

  The proposed Contractor agrees that during ETP-funded training hours, trainees will not produce products or provide services which will ultimately be sold.

- ***Contingencies***

  For participating employers in the apparel industry, the proposed Contractor will ensure that each employer possesses a garment certificate from the Department of Labor Standards Enforcement and has no reported labor violation prior to the start of training.

- ***On-Site Training***

  Customized, on-site training is the key to addressing the needs of manufacturers in California. The vast majority of training (over 95 percent) will be on-site training based on the overall company improvement goals. Center-based training at CMTC facilities may occur if the participating employer does not have adequate facilities; in which case, CMTC meeting rooms or other appropriate off-site facilities may be used. To meet ETP's customization requirement, center-based training conducted at CMTC will be limited to trainees from the same employer.

PROPOSED ACTION:

Staff recommends that the Panel approve this Agreement if funding is available and the project meets the Panel priorities based on CMTC's stated need to provide employees with the skills to enhance the participating companies' ability to remain competitive and to grow and to ensure a continuing relationship with their customers in the community.

NARRATIVE:

Established in 1992, CMTC operates through a cooperative agreement between the U.S. Department of Commerce National Institute of Standards and Technology Manufacturing Extension Partnership and the California Department of Business, Transportation and Housing. Its mission is to assist small and medium-sized manufacturers in California and help these companies grow a fiercely competitive manufacturing industry in the State.

NARRATIVE: (continued)

Headquartered in Gardena, California, CMTC provides integrated consulting and training services to small and medium-sized manufacturers in the following areas:

- Lean Enterprise – application of the latest manufacturing technologies and techniques resulting in efficient and productive production processes.
- Quality Management – production of consistent, high-quality, and waste-free products.
- Information Technology – selection and implementation of computerized information system suitable for the manufacturer and its customer requirements.
- Strategic Business – development of overall company strategy, marketing techniques, and training plan.
- Supply Chain Management - streamline of the company's supply chain from raw materials to delivery of the final product.

CMTC serves the counties of Los Angeles, San Bernardino, Riverside, Orange, Ventura, San Luis Obispo, San Diego, Imperial, and San Joaquin Valley. The company is working on improving 12 industry clusters in its service area: aerospace and defense, apparel, bio-tech/bio-med, chemical products, distribution, electronics, entertainment, food processing, metal manufacturing/machinery, paper and printing, rubber and plastics, transportation (auto), and wood products/furniture. These industries are targeted because of their potential to significantly enhance the state's economic objectives in that they represent the emerging high technology cluster industries, have the largest numbers of employment base, and have the greatest needs for services to enhance their competitiveness and ability to export.

Employer Demand

CMTC determines the participating employers' specific demands for training based on surveys and pre-training assessments. As a part of the California Manufacturing Technology Program, CMTC conducts annual surveys of small and mid-size manufacturers in California to identify key barriers to improving growth. Recent survey results indicate that the top five difficulties and barriers for California manufacturers are:

- Increasing production cost efficiencies
- Upgrading employee skills
- Developing effective marketing and sales strategies
- Conducting production planning and scheduling
- Obtaining ISO 9000 registration

Survey results are used to develop programs to assist manufacturers so they can better address the issues impeding their growth, increase their ability to compete globally, and add jobs in their communities. In addition, CMTC staff consultants meet with employers and conduct enterprise assessments to identify and design company improvement goals. Information obtained from the assessment is used to plan future classes and curriculum. CMTC will provide between 50 and 70 percent of the proposed training and will subcontract other

NARRATIVE: (continued)

training services to California-based training providers including community colleges and universities.

Since 1997, CMTC has trained 8,000 workers at more than 300 California companies. This proposal will provide concentrated training in continuous improvement, business skills, management skills, computer skills, manufacturing skills, hazardous materials and literacy skills.

The menu curriculum consists of 24 to 160 hours of class/lab training. Training is customized based on overall company improvement goals and client assessments so that training addresses specific improvement needs and assignments apply training directly to the job. Each trainee will be provided training in one or more of the following training modules:

Continuous Improvement training will provide the trainees the knowledge to attain company quality goals, increase company productivity and profitability. This training will also increase teamwork, problem solving, decision making, and train employees in lean manufacturing, which will improve product quality and market competitiveness.

Business Skills will include training in customer service, communication skills, and sales skills for employees to effectively communicate with internal and external customers.

Management Skills will provide managers and supervisors training in leadership and strategic planning which will enable them to manage in high performance workplaces and effectively lead subordinate employees.

Computer Skills training will enable trainees to improve efficiency and company productivity and to further learn the most current technology in the areas of e-commerce, enterprise resource planning, computer networking, and Windows software applications.

Manufacturing Skills training will improve productivity, quality, efficiencies, and reduce waste in the company's processes. This training will help upgrade the employees' skills, improve production skills and product quality, reduce rework and scrap, and enhance manufacturing skills.

Hazardous Materials training comprised of environmental management for those workers who create and implement hazardous material handling plans and systems.

Literacy Skills training will be provided in conjunction with job-specific skills training. Participating employers are recognizing the benefits of removing language barriers within their labor force, which will increase employee participation and productivity. Better language will allow workers to participate more fully in team activities and render them better able to perform their job duties, which will lead to more opportunity for advancement within the company.

Supplemental Nature of Training

State law requires that ETP funds be used to supplement, rather than displace, funds available through existing programs conducted by employers and government-funded programs.

NARRATIVE: (continued)

Many of the participating employers have never offered formal, structured, customized on-site training programs for their employees. Participating employers typically offer opportunities for their employees to improve skills through on-the-job training, coaching and mentoring (often conducted by an in-house resource rather than a trained facilitator), limited job-specific training conducted in-house or off-site seminars. Company-funded training is limited to topics in safety, sexual harassment, and OSHA. This proposed ETP training will consist of a variety of topics that are totally new to many of the participating employers. Lacking internal resources and budgets, much of this training would not be offered to workers in the absence of ETP funding.

SUBCONTRACTORS:

The following subcontractors will provide training services for an amount to be determined prior to the start of training:

Cerritos College, Norwalk, California
Glendale Community College, Glendale, California
Mira Costa College, Oceanside, California
Riverside Community College, Norco, California
University California San Diego Extension, San Diego, California

THIRD PARTY SERVICES:

Applicant representatives state that no third party services were used in the development of the ETP application.

PRIOR PROJECTS:

The following are completed project statistics for ETP Agreements with this Contractor within the last five years:

PRIOR PROJECTS					
Agreement Number	**Location (City)**	**Term**	**% Earned**	***Planned* In-kind Contribution**	***Reported* In-kind Contribution**
ET9-0888*	Statewide	10/30/98 – 10/29/00	79%	N/A	N/A
ET00-0302*	Statewide	5/22/00 – 5/21/02	84%	N/A	N/A
ET01-0355	Statewide	6/30/01 – 6/29/03	80%	$1,228,540	$982,832

** In-kind contributions were not required of training agencies when these Agreements were approved; therefore, CMTC staff did not collect this information.*

ACTIVE PROJECTS:

The following are current project statistics:

ACTIVE PROJECTS						
Agreement Number	**Agreement Amount**	**Term**	**Planned Number To Be Retained**	**Number Enrolled**	**Number Completed Training**	**Number Retained For 90 Days**
ET03-0237	$3,702,793	1/06/03 – 1/05/05	3,813	3,136	2,366	1,995

Contractor expects more than 85% performance in this Agreement.

CALIFORNIA MANUFACTURING TECHNOLOGY CONSULTING (CMTC)
MENU CURRICULUM

Class/Lab Hours
24 – 160

Trainees will be provided any of the following:

CONTINUOUS IMPROVEMENT

Total Quality Management (TQM) – Part One
- Introduction and Overview
- Strategy
- Continuous Improvement
- Introduction to Problem Solving
- Organizing for TQM

Total Quality Management (TQM) – Part Two
- Implementing TQM
- Empowerment or Taking Responsibility
- Interpreting and Analyzing Data
- Defining the Problem
- Developing Solutions
- Developing and Action Plan
- Implementation and Evaluation

Teams and Team Building
- Types of Teams and When to Use Them
- Personal Styles and Teamwork
- Effective Work Teams
- Team Development
- Team Processes
- Group Facilitation Skills
- Running Effective Team Meetings
- Integrated Product Teams
- Self-directed Teams
- Effective Team Problem Solving
- Leading and Managing a Team

Problem Solving
- Effective Problem Solving
- Cause and Effect Analysis
- Defining Problem(s)
- Tools for Problem Solving
- Assessing Effort/Impact Analysis
- Determining Process Capability
- Process Improvement

Class/Lab Hours
24 - 160

Communication Skills
- Listening
- Effective Speaking
- Effective Writing
- Communication Styles and Techniques
- Presentation Skills

Leading Change
- What is a quality focus?
- Developing shared vision & proof of need
- The importance of defining mission
- Strategies for effective communication
- Meetings effectiveness/brainstorming
- Conflict & reaching consensus
- Goal setting
- Coaching and facilitation
- Managing diversity
- Teams
- Leadership
- Decision Making and Problem Solving
- Motivation and Reinforcement
- Managing Change
- Project Management
- Strategic Planning Overview
- Organizational Models
- Operations Strategy
- Reward Systems
- Planning and Control Systems
- Performance Management
- Managing Customer Service

Implementing ISO 9000 Part One
- Overview and purpose
- Challenges for small manufacturers
- Documentation training
- Policies and procedures
- Roles and responsibilities
- Corrective and preventive action

Class/Lab Hours
24 - 160

Implementing ISO 9000 Part Two
- Documenting processes
- Improving systems
- Managing systems
- Internal audits
- Product identification and traceability
- Quality records

Environmental Management System (EMS) Implementation
- Overview of ISO 14000 Requirements
- Conducting and EMS Records Review
- Identification of Environmental Aspects
- EMS Registration Process
- Implementing a Successful EMS System
- Summary of EMS Requirements

Lean Manufacturing
- History and background
- Fundamentals of Toyota Production Systems
- Defining Value added and Non-Value added activities
- Seven types of waste
- Kaizen methodology
- Process mapping
- Cellular manufacturing
- Pull systems
- Inventory reduction/control
- Just-in-Time
- Workplace organization
- Visual Controls
- Standardized operations
- Waste Reduction
- Set-up reduction
- Total Productive Maintenance

Boeing Advanced Quality Systems (D1-9000)
- Introduction of Basic and Advanced Quality Systems
- Roles and Responsibilities
- Quality Systems Improvement and Process Monitoring
  - Contract Review
  - Control of Nonconforming Product
  - Corrective and Preventative Action
  - Internal Quality Alignment
- Variation & Its Sources
- Histograms & Process Description Tools

Class/Lab Hours
24 - 160

- Process Capability
- Control Charts

Six Sigma

- Basics of Descriptive Statistics for Six Sigma
- Typical Six Sigma Performance
- The Six Sigma Process Steps
- Statistical Population Tests for Six Sigma
- One- and Two-Tail Tests
- Inference Test Decision Tree
- Tests on 2 Means (Z, t)
- Tests on 2 Variances (Chi-squared, F)
- Types of Variation
- Characteristics of a Process Under Control
- Correlation and Regression Analysis for Six Sigma
- Reliability Statistics for Six Sigma

Design of Experiments (DOE)

- Overview of Design of Experiments
- Variation Reduction
- Process Control vs. Process Capability
- Quality Loss Function
- Basic Experimental Design and Analysis
- Use of Orthogonal Arrays (OAs)
- Design of Interactions
- Confounding (Taguchi), or Aliasing (Traditional)
- 2, 3 and 4 way designs
- Analysis of Results

Failure Mode and Effects Analysis (FMEA)

- Overview of Failure Mode and Effects Analysis
- Definition, Purposes and Benefits of FMEA
- Types of FMEA (Design and process)
- Timing for Design and Process FMEAs in the Development Cycle
- Fault Tree Analysis (FTA)
- Design Controls
- Role of Process FMEAs in the Development Cycle
- Cpk Practice
- Manufacturing Controls
- Maintenance FMEAs
- Ford Method for FMEAs

Class/Lab Hours
24 - 160

Statistical Process Control (SPC) – Part One
- SPC Overview
- Concepts, Theory and Application
- Statistical Techniques
- Mapping Out Key Processes
- Collecting Data
- Interpreting and Analyzing Data
- Histograms & Run Charts
- Sampling & Control Charts

Statistical Process Control (SPC) – Part Two
- Process Capability
- Decision Making and Problem Solving
- Benchmarking
- Variability in Processes
- Key Process Indicators
- Pareto Analysis & Flowcharts
- Cause and Effect
- Variation
- SPC Planning

Quality Function Deployment (QFD) and New Management & Planning Tools
- Introduction to Quality Function Deployment (QFD)
- Defining customer requirements
- Correlation plotting
- Interrelationships
- Affinity diagrams
- Tree diagrams

Improving Process Cycle Times
- Process Design
- Tools for Cycle Time Flowcharting
- Defining Measurements
- Gathering Time-Based Information
- Streamlining a process

Technical Process Improvement
- Clean room procedures
- Defect detection
- Product handling
- Critical operations
- Product testing

Class/Lab Hours
24 - 160

Quality Inspection
- Inspection objectives
- Planning
- Policy and procedure manuals
- Identifying issues
- Review of quality requirements
- Inspection procedure and technique

Production and Inventory Management
- Basics of Supply Chain Management
  - Elements of the Supply Chain
  - Just-in-Time (JIT)
  - Total Quality Management (TQM)
  - Manufacturing Resources Planning (MRPII)
  - Demand Planning
  - Capacity Management
- Master Planning of Resources
  - Demand Management
  - Sales and Operations Planning
  - Master Scheduling
  - Measuring the Business Plan
- Detailed Scheduling and Planning
  - Recognizing Techniques & Practices of Inventory Management
  - Mechanics of the Detailed Material Planning Process
  - Planning Operations to Support the Priority Plan
  - Planning Procurement and External Sources of Supply
- Execution and Control of Operations
  - Prioritizing and Sequencing Work
  - Executing Plans and Implementing Controls
  - Authorizing and Reporting Activities for Push and Pull Systems
  - Evaluating Performance and Providing Feedback
- Strategic Management of Resources
  - Competitive Market Issues
  - Choices Affecting Facilities, Supply Chain, Information Technology, and Organizational Design
  - Configuring and Integrating Internal Processes
  - Evaluating and Managing Projects

Integrated Resource Management
- Enterprise Concepts and Fundamentals
  - Strategic Fundamentals
  - Management Concepts
  - Business Processes
  - Support Functions

Class/Lab Hours
24 - 160

- Identifying and Creating Demand
  - Business Planning and Customer Demand
  - Marketing
  - Sales
  - Customer Order and Service
  - Performance Measurement
- Designing Products and Processes
  - Comprehension and Translation of Requirements
  - Work Structure (Planning and Implementing a Design Project)
  - Performance Assessment of the Design Process
  - Continuous Improvement and Innovations
  - Delivering Products and Services
  - Identification of the Delivery Strategy
  - Execution and Assessment
  - Continuous Improvement and Innovation
  - Integrated Enterprise Management
  - Personal Skills and Teamwork
  - Making Change Happen
  - Functions and their Integration within the Enterprise
  - Enterprise in the Environment
  - Enterprise Through Time

MANUFACTURING SKILLS

Programmable Logic Controllers: An Introduction – Part One
- Introduction to Programmable Logic Controllers (PLC)
- Programming a Programmable Logic Controller
- Input and Output Devices
- Developing and Maintaining a PLC Control System
- Programmable Logic Controller Troubleshooting

Programmable Logic Controllers: Advanced Topics – Part Two
- Hands-on Analog Programming
- Math Functions
- Comparison Instruction
- Programmable Logic Controller Programming

Soldering
- Introduction to Soldering Techniques
- Construction of Printed Circuit Boards (PCBs)
- PCB Conformal Coating
- Coatings

Class/Lab Hours
24 - 160

- Introduction to de-soldering, rework, modifications and quality standards
- Find and ultra-fine pitch devices
- Inspection of work

Blueprint Reading

- Fundamentals
- Blueprint Composition and Orientation
- Usage and Interpretation of Blueprints
- Dimensioning Techniques
- Views and Rotation Principles
- Visual Aids
- Process Specifications
- Symbols and Notations

Shop Math and Geometric Dimensioning & Tolerancing (GD&T)

- Introduction to GD&T
- Mathematics and Order of Operations
- Datums
- Flatness, Parallelism & Straightness
- Perpendicularly
- Circularity & Concentricity
- Cylindricity and Runout
- Profile of Lines and Surfaces
- Positioning
- Measurement Principles
- Gauging Tolerance

CNC Programming

- Numerical Control Systems
- Cycle & Micro Codes
- Tooling – Speeds and Feeds
- Linear Interpolation – 2 ½ Axis Programming
- Registers – Fixtures and Tool Offsets
- Circular Interpolation – 2 ½ Axis Programming
- Canned Cycle Programming
- Micro Programming

Surface Mount Technology (SMT): Manufacturing – Part 1

- Brief Review of Surface Mount Technology (SMT) Processes
- Study of SMT Components, Board Types, Coars and Fine Pitch
- Solderability Testing
- Solder Paste Characteristics
- Screen, Stencil and Other Solder Paste Dispensing Techniques

Class/Lab Hours
24 - 160

- Adhesive Dispensing
- SMT Part Placement and Feeding Systems
- Solder Reflow Theory: Infrared, Vapor Phase, Laser and Wave Soldering

Surface Mount Technology: Rework – Part 2

- Introduction/Overview of Surface Mount Technology (SMT)
- Handling Practices, Including Electrostatic Discharge (ESD), Mechanical and Thermal Considerations
- Workmanship Standards
- SMT Rework Principles
- Assembly Preparation
- Materials Impact on Rework and Repair
- Process Troubleshooting

Low-Residue/No-Clean Soldering Process Implementation

- Options for Change
- Industry/Government Research
- Impact on Soldering Process
- Low Residue/O-Clean Vs. Rosin Based Flux
- Process Development and Implementation Steps
- Impact on Other Processes
- Proven Implementation Strategies
- Case Study Analysis and Lessons Learned

Printed Wiring Board Repair

- Five Keys for Repair Program
- Edge Contact Repair
- Base Board Repair/Fine Line
- Plated Hole Pad Repair
- Plated Hole Repair, No Inner Layer
- Coating/Soldermask Replacement
- Surface Circuit Repair, Circuit Track Method

Through Hole Technology: Rework and Repair

- Rework/Repair on Wiring Assemblies
- Safety Precautions
- Conformal Coating Identification and Removal
- Reheat and Resolder Methods of Rework
- Basic Component Desoldering and Removal
- Multi-lead Componenet Soldering
- Conductor Repair and Pad Replacement
- Process Troubleshooting

Class/Lab Hours
24 - 160

Sewing
- Sequencing sewing operations
- Sew engineering
- Sew maintenance techniques
- Setting piece rates
- Toyota Production System Sewing Modules

Productions Skills
- Good Manufacturing Practices
- Hazardous Analysis Critical Control Points (HACCP)
- Total Productive Manufacturing
- Optimal Operating Methods
- Continuous Improvement and World Class Manufacturing
- Shop Skills – Drawing, Measurement and Instrumentation
- Equipment Operations
- Equipment Preventative Maintenance
- Optimal Operating Methods
- Warehousing Operations

Food & Drug Administration (FDA) Good Manufacturing Practices (cGMP)
- Understanding FDA Documentation Requirements
- Documentation Skills
- Operations

FDA Good Laboratory Practices (cGLP)
- Laboratory Documentation
- Laboratory Methods
- Reading and interpreting technical materials

Small Batch Manufacturing
- Upstreaming
- Downstreaming
- Scale-up from lab methods
- Separation and purification
- Manufacturability

Large Batch Manufacturing
- Upstreaming
- Downstreaming
- Scale-up from small batch
- Large scale separation and purification
- Large scale manufacturability

Class/Lab Hours
24 - 160

Clean Room Technology
- Controls and instruments
- Safety requirements
- Environmental requirements
- Gowning
- Cleaning and disinfections
- Behavior modification

Biotech Research and Development (Laboratory Skills)
- Laboratory procedures
- Standard Operating Procedures (SOP's) and Good Laboratory Practices (GLP's)
- Read and interpret technical documentation
- Record keeping
- Lab safety
- Lab notebook development and maintenance
- Operation of striation equipment

Biotech Research and Development/Upstreaming (Laboratory Skills)
- Analyze and evaluate technical data
- Cell type identification
- Overview of Tissue culturing
- Culture Inoculation and incubation
- Impurity identification and isolation
- Overview of cell harvesting

Biotech Research and Development/Downstreaming (Laboratory Skills)
- Deoxyribonucleic Acid (DNA) Isolation
- Bioinformatics
- Protein Purification

Metrology
- Measuring temperature
- Understanding specifications
- Identifying standards
- Calibration
- Instrument maintenance
- Identifying tolerance requirements
- Testing procedures

Class/Lab Hours
24 - 160

Writing Bio Standard Operating Procedures (SOP's)
- Formatting requirements
- Identifying information sources
- Sequencing
- Terminology
- Resource identification

Animal Science
- Overview of the animal/bio relationship
- Documentation
- Animal care skills
- Nursing skills
- Equipment and supplies used in testing and research
- Cleaning and disinfections
- Types of animals used in research
- Animal breeding

Biotechnology Design Control
- Requirements for Design Control
- Design Control requirements
- Small Entity Compliance Guide- implications for Design Control
- International requirements for Design Control
- Human Factors Guidance Documents

Risk Assessment & Hazard Analysis
- Risk Assessment
- International/ISO/European Standards impacting Medical Device Design & Safety including
- Risk Analysis and the Product Life Cycle
- Failure Modes and Effects Analysis (FMEA)
- The Top-Down Approach: Fault Tree Analysis (FTA)
- The Bottom-Up Approach: Failure Mode Effects Criticality Analysis (FMECA)
- Disposable & Consumable Medical Device Risk Analysis
- Software & Microprocessor-Controlled System Hazard Analysis
- How to Package for submissions

Software
- Regulatory Aspects of Software & Computers
- Software Policies, Good Manufacturing Practices, Quality Systems Requirements, Design Control and Submissions
- Compliance issues, Enforcement actions, and Submission Requirements

Class/Lab Hours
24 - 160

- Software Guidance Documents-content & impact
- Software Process Improvement for Capability Determination (SPICE) - descriptions, use and implications
- Software Life Cycle-Requirements/Design/Implementation – Standard Operating Procedures
- Hazard/Risk Analysis/White/Black Box Testing & Traceability
- Verification & Validation Documentation

Software Verification & Validation Strategies

- Software Verification & Validation requirements
- Software Hazard Analysis / Verification and Validation Plan
- Verification & Validation for Minor, Moderate, and Major Concern Devices or Processes
- Software Standard Operating Procedures related to Verification & Validation
- Software Quality Assurance, Test Strategies, Methodologies & Validation Requirements

Electronic Record Keeping & Signatures

- Overview of requirements for electronic record keeping
- Procedures & Controls for Closed Systems
- Computer System Validation issues, Protection of Records, Authority Checks & Audit Trails
- Procedures & Controls for Open Systems
- Requirements for Legacy, Hybrid, and E-record only systems Electronic Signature Requirements, Components & Controls

Product Submissions: Getting to Market

- Product Regulation & Review Process
- Types of Product Submission Packages
- Use of Standards and Guidance documents
- Clinical Data Requirements
- Technical File Mapping Overview
- Mutual Recognition Agreement (MRA) & Conformity Assessment Bodies (CABs)

Quality System Requirements, Good Manufacturing Practices & Inspections

- History and Rationale for Quality System Requirements
- Internal Auditing Methods
- Inspection Methods, including Quality System Inspection Technique (QSIT)
- How to respond to an enforcement action

Class/Lab Hours
24 - 160

Medical Devices and the European Market

- European Approval Process Overview- Guide to the Conformite Europene Marking process
- Device Classifications & In Vitro Diagnostic (IVD) Lists-Differences & How to determine
- Standards & Revisions, Directives, Medical Devices Directive (MDD), In Vitro Diagnostic (IVD), Active Implantable Medical Devices (AIMD), etc.
- Conformity Routes-How to select, benefits and potential problems
- Constructing Technical Files and Dossiers for Devices &In Vitro Diagnostics
- Preparing a Risk Management File

Requirements for Device Safety

- System Requirements
- Labeling and Warning Requirements
- Safety concepts for Mechanical and Thermal Hazards
- Electrical Safety and Leakage Current Requirements
- Constructional Requirements
- Type tests and on-going compliance Test Methods
- Electromagnetic Compatability (EMC) Requirements

Manufacturing Logistics Management

- Introduction to Logistics
- History
- Government De-regulation
- Supply Chain
- Relative Costs of Supply Chain Elements
- Principles of Warehouse Design and Operation
- Slotting
- Types of Rack
- Principles of Work Minimization
- Lift Truck Selection and Operations
- Work Assignments
- Types of Picking
- Replenishment
- Dock Design and Operation
- Types of Cross-docking – Full Pallet vs. by Case
- Sortation Options
- Vendor Bar Coding to Aid Sortation
- Domestic Transportation
- Transportation Management Systems
- Benchmarks for Transportation Expense
- Transportation Budget Analysis

Class/Lab Hours
24 - 160

- Routing and Dispatching
- Purchasing and Inventory Control
- Methods of Cycle Counting
- Cost of Accurate Picking/Replenishment vs. Cost of Counting & Adjusting Inventory
- Inventory Control Systems
- Optimal Inventory Locations
- Principles of Receiving for Accurate Inventory Control
- Vendor Management
- Statistical History of Receipts
- Principles of Procurement
- Demand Planning
- Control of Inbound Transportation
- Relationship of Procurement to Warehousing to Shipping/Transportation

BUSINESS SKILLS

Customer Service Skills

- Determining Customer Needs
- Building the Customer Relationship
- Identifying Internal and External Customers
- Customer Satisfaction
- Customer Interaction
- Dealing with Difficult Situations
- Solving Problems
- Ensuring Excellence in Customer Service

Sales Skills

- Communication skills for sales
- Customer needs vs. organization's capabilities
- Sales activities – overview
- Account planning
- Organization buying process
- Obtaining customer information & setting priorities
- Prospecting & identifying needs
- Presenting solutions, handling objections & gaining commitment
- Managing information & working with others for success

Class/Lab Hours
24 - 160

COMPUTER SKILLS

Enterprise Resource Planning (ERP)

- Introduction to ERP
- The manufacturing database
- The enterprise database
- Material requirements
- General Ledger
- Financials
- Accounts Receivable
- Accounts Payable
- Order Entry
- Purchasing
- Inventory management
- Costing
- Bill of material and Engineering Change Notice
- Manufacturing- Repetitive Manufacturing or Discrete Manufacturing
- Advanced Manufacturing
- Scheduling/Capacity Planning
- Customer order management

Electronic Commerce and eBusiness

- An overview of electronic commerce
- Electronic Commerce – Business to Consumer Sales
- Electronic Commerce – Business to Business Sales
- Electronic Commerce – Business to Business Procurement
- Fundamentals of eBusiness
- Developing eBusiness Goals & Strategies
- Internet Protocols and Tools
- Internet Software
- Web Site Development
- Analyzing Use
- Standards for Secure Electronic Commerce
  - Secure Sockets Layer (SSL)
  - Secure Electronic Transactions (SET)
  - Virtual Private Networks (VPN)
  - Internet Protocol Security (IPSec)
- Electronic Data Interchange (EDI)
- Supply Chain Management

Internet and Electronic Mail

- Browsing the Internet
- Searching
- Downloading files

Class/Lab Hours
24 - 160

- An overview of electronic mail features
- Create electronic mail messages
- Send and receive electronic mail
- Create and attach files for electronic mailing

Windows

- Introduction to Windows
- Applications
- Appearance of your desktop
- Print manager
- Manage files and directories

Word Processing

- Overview of word processing features
- Word processing environment
- Create, name and save a document
- Editing
- Print a document
- Formatting
- Tables
- Styles
- Macros

Spreadsheets

- An overview of electronic spreadsheets
- Enter and edit text, numbers and formulas
- Name and save a workbook file
- Print a worksheet
- Basic formatting
- Functions
- Workbooks
- Charts

Presentation Software

- An overview of presentation features
- Create, name and save files
- Printing
- Inserting objects
- Charts and pictures
- Slide effects and animation
- Formatting
- Different views

Class/Lab Hours
24 - 160

Database

- Introduction to database management concepts
- Creating and managing data files
- Editing files and modifying structures
- Data organization
- Creating and printing labels
- Using database commands and functions
- Creating and printing reports
- Input screens
- Relating files
- Queries and filters

Computers on the Shop Floor

- Computer operations
- Personal computers
- Mainframes
- Computer controls
- Inventory controls
- Data entry
- Process controls
- Networks

HAZARDOUS MATERIALS (HAZMAT)

Hazardous Materials Part One

- Introduction to environmental management
- Introduction to environmental chemistry
- Introduction to environmental toxicology
- Hazardous material management (air, water, land)
- Permitting and reporting regulations and control of air toxics
- Storm water and industrial waste discharge and tiered permitting

Hazardous Materials Part Two

- Hazardous material and hazardous waste management
- Hazardous materials/waste incident management and notification
- Hazardous waste management and transportation
- Hazardous waste minimization and future trends
- Field lab and training

Hazardous Materials Part Three

- Workplace safety management
- Environmental monitoring and personal protective equipment

Class/Lab Hours
24 - 160

Hazardous Materials Part Four

- Environmental liability and risk management
- Environmental liability, site assessment
- Underground and aboveground storage tanks, solid waste recycling
- Fire prevention and self inspection program

LITERACY SKILLS
(*cannot exceed 45% of the total job-specific skills training)*

Vocational English as a Second Language (VESL)

- Listening/Understanding
  - Questions
  - Imperatives, Verbal Directions
  - Statements, Descriptions
  - Active Listening Techniques

- Speaking
  - Requests for Clarification, Directions
  - Taking Messages, Using Voice Mail
  - Calling Supervisors
  - Giving Directions, Descriptions
  - Following Instructions
  - Acknowledgements
  - Explaining Needs for Completion of Job
  - Asking for Feedback on Performance
  - Describing Tools, Parts and Products

Reading

- Understanding Directions and Signs
- Understanding Manuals and Reports
- Understanding Forms Used on the Job
- Scanning for Specific Information

Writing

- Filling Out Forms Needed for Job Completion
- Leaving Accurate and Understandable Messages
- Describing Condition of Products
- Generating Written Questions and Statements
- Work Specific Forms

Employee Responsibilities

- Work Procedures

Class/Lab Hours
24 - 160

Interpersonal Relations on the Job
- Making or Responding to Conversation from Co-workers
- Developing Planned Behaviors to Deal with Cultural Bias, Conflicts and Differences

Cross Cultural Communication
- Understanding Similarities and Differences Between the "Home" Culture and the New Culture
- Understanding What is Expected in the English Speaking Workplace

MANAGEMENT SKILLS
(to be provided to managers and supervisors only)

Management/Supervisory Skills
- Leadership
- Effective Communication
- Decision Making and Problem Solving
- Motivation and Reinforcement
- Managing Change
- Project Management
- Coaching and Feedback
- Time Management and Delegation
- Conducting Effective Meetings
- Managing Diversity/Cross Cultural Issues
- Goal Setting
- Strategic Planning Overview
- Organizational Models
- Operations Strategy
- Reward Systems
- Planning and Control Systems
- Management Styles
- Performance Management
- Facilitation Skills
- Managing Customer Service
- Introduction to Teams
- Effective Teams

Strategic Planning and Policy Deployment
- Strength, Weaknesses, Opportunity and Threat (SWOT) analysis
- Planning: milestone and Gantt charts
- Procedures and operational definitions
- Customer/supplier partnerships
- Policy deployment
- Mission alignment and measurement systems

Participating Employers in Retrainee
Multiple Employer Contractor (MEC) Agreements
(ETP 100B)

Contractor's Name: California Manufacturing Technology Consulting CCG No: ET05-0159

Reference No: 04-0433

Company:	Armstrong World Industries
Address:	5037 Patata Street
City, State, Zip:	South Gate, CA 90280
Contact Person/Title:	Daniel P. Murray
Telephone No.:	323-562-7256
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	45
# of F/T company employees worldwide:	16,500
# F/T company employees in California	150
Company:	California Pottery & Tile
Address:	859 E. 60th Street
City, State, Zip:	Los Angeles, CA 90001
Contact Person/Title:	Sean McLean, President
Telephone No.:	323 235-4151
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	12
# of F/T company employees worldwide:	57
# of F/T company employees in California	57
Company:	Cannon Safe
Address:	216 2nd Street Building 932
City, State, Zip:	San Bernardino, CA 92408
Contact Person/Title:	Aaron M. Baker, Vice President
Telephone No.:	909-382-0303 ext 425
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	20
# of F/T company employees worldwide:	150
# of F/T company employees in California	150
Company:	Craftech
Address:	2941 East La Jolla Street
City, State, Zip:	Anaheim, Ca 92806
Contact Person/Title:	Michael Story, Human Resources Manager
Telephone No.:	714-630-8117 ext 317
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	40
# of F/T company employees worldwide:	184
# of F/T company employees in California	184

Participating Employers in Retrainee
Multiple Employer Contractor (MEC) Agreements
(ETP 100B)

Contractor's Name: California Manufacturing Technology Consulting CCG No: ET05-0159

Reference No: 04-0433

Company:	European Panel Products
Address:	101 16th Street
City, State, Zip:	San Diego, CA 92101
Contact Person/Title:	William Washburn, President
Telephone No.:	619-239-8811
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	10
# of F/T company employees worldwide:	35
# of F/T company employees in California	35
Company:	Fox Hills Industries and Machining
Address:	5831 Research Drive
City, State, Zip:	Huntington Beach, CA 92649
Contact Person/Title:	George Balas, Vice President
Telephone No.:	714-893-1940
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	10
# of F/T company employees worldwide:	44
# of F/T company employees in California	44
Company:	GE Osmonics
Address:	760 Shadowridge Drive
City, State, Zip:	Vista, CA 92083
Contact Person/Title:	Barton McKay, Human Resources Manager
Telephone No.:	760-598-1800
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	20
# of F/T company employees worldwide:	2000
# of F/T company employees in California	215
Company:	Head West
Address:	1829 West El Segundo Boulevard
City, State, Zip:	Compton, CA 90222
Contact Person/Title:	Harold P. Kline, President
Telephone No.:	310-604-9336
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	20
# of F/T company employees worldwide:	225
# of F/T company employees in California	225

Participating Employers in Retrainee
Multiple Employer Contractor (MEC) Agreements
(ETP 100B)

Contractor's Name: California Manufacturing Technology Consulting CCG No: ET05-0159

Reference No: 04-0433

Company:	Jackson Corporation
Address:	3447 Union Pacific Avenue
City, State, Zip:	Los Angeles, CA 90023
Contact Person/Title:	Robert Rivera, Mfg. / Ops Manager
Telephone No.:	323 269-8111 x425
Collective Bargaining Agreement (s):	Yes
Estimated # of employees to be retrained or hired under this agreement:	20
# of F/T company employees worldwide:	92
# of F/T company employees in California	82
Company:	JMR Electronics Inc
Address:	20400 Plummer Street
City, State, Zip:	Chatsworth, CA 91311
Contact Person/Title:	Mitchell Guzik, COO
Telephone No.:	818-993-4801
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	15
# of F/T company employees worldwide:	127
# of F/T company employees in California	127
Company:	Mo Bio Laboratories, Inc.
Address:	5431-J Avenida Encinas
City, State, Zip:	Carlsbad, CA 92008
Contact Person/Title:	Mark N. Brolaski, President
Telephone No.:	760-929-9911
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	5
# of F/T company employees worldwide:	15
# of F/T company employees in California	15
Company:	National RV Inc.
Address:	3411 North Perris Boulevard
City, State, Zip:	Perris, CA 92571
Contact Person/Title:	Jeff Goodrich, Human Resources
Telephone No.:	909-943-6007 ext 5275
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	100
# of F/T company employees worldwide:	1100
# of F/T company employees in California	1100

Participating Employers in Retrainee
Multiple Employer Contractor (MEC) Agreements
(ETP 100B)

Contractor's Name: California Manufacturing Technology Consulting CCG No: ET05-0159

Reference No: 04-0433

Company:	Packaging Advantage Corp.
Address:	4633 Downey Road
City, State, Zip:	Los Angeles, CA 90058
Contact Person/Title:	Gloria Fernandez, Human Resources
Telephone No.:	323-589-8181 ext 336
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	150
# of F/T company employees worldwide:	426
# of F/T company employees in California	426
Company:	Prime Wheel
Address:	17705 South Main Street
City, State, Zip:	Gardena, 90248
Contact Person/Title:	Albert Huang, Vice-President
Telephone No.:	310 516-1426
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	20
# of F/T company employees worldwide:	1000
# of F/T company employees in California	950
Company:	Royal Truck Bodies Inc
Address:	14001 Garfield Avenue
City, State, Zip:	Paramount, CA 90723
Contact Person/Title:	Marc San Paolo, Project Manager
Telephone No.:	562-633-9951
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	40
# of F/T company employees worldwide:	237
# of F/T company employees in California	234
Company:	Thoro Packaging
Address:	1467 Davril Circle
City, State, Zip:	Corona, CA
Contact Person/Title:	Janet Steiner, President
Telephone No.:	310 532-4430
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	106
# of F/T company employees worldwide:	106
# of F/T company employees in California	106

Participating Employers in Retrainee
Multiple Employer Contractor (MEC) Agreements
(ETP 100B)

Contractor's Name: California Manufacturing Technology Consulting CCG No: ET05-0159

Reference No: 04-0433

Company:	Viasat Inc
Address:	6155 El Camino Real
City, State, Zip:	Carlsbad, CA 92008
Contact Person/Title:	Melinda del Toro, Human Resources Manager
Telephone No.:	760-476-4761
Collective Bargaining Agreement (s):	No
Estimated # of employees to be retrained or hired under this agreement:	35
# of F/T company employees worldwide:	940
# of F/T company employees in California	400

ET05-0159
CMTC

Motor, Industrial and Beverage Warehouse, Drivers
and Special Employees Union

(213) 627-2
Fax (213) 627-0

Teamsters Local Union No. 630

750 So. Stanford Avenue / Los Angeles, California 90021-1468

PAUL A. KENNY
Secretary-Treasurer

SYLVIA GA
Presi

June 14, 2004

California Manufacturing Technology Center
1149 W. 190TH Street, Suit 2014
Gardena, CA 90248-4334

Re: Union Support of Training

Dear CMTC:

We are aware that employees of Jackson Corporation Company will receive training funded through the Employment Training Panel and we concur with the proposed training.

Sincerely,

Robert M. Rios

Robert M. Rios
Divisional Representative

CC: Paul A. Kenny, Secretary-Treasurer
Sylvia Garza, President
Robert Rivera, Jackson Corporation